DOCUMENT RESUME

ED 192 963 RC 012 252

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TITLE Forecasting Repeat Child Abuse from Initial Social Worker Reports: A Metropolitan and Non-metropolitan Comparison.
PUB DATE 20 Aug 80
NOTE 18p.; Paper presented at the Annual Meeting of the Rural Sociological Society (Ithaca, NY, August 20-23, 1980). Best copy available.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Behavior Patterns; *Case Studies; *Child Abuse; *Comparative Analysis; Demography; Injuries; Metropolitan Areas; *Prediction; *Rural Urban Differences; Social Science Research; Social Services
IDENTIFIERS Nonmetropolitan Areas; *Wisconsin

ABSTRACT

Since the phenomenon of reabuse is postulated as being more probable after initial child abuse than is the probability of an initial abuse and since only modest inquiry has been directed at this phenomenon, research was conducted to answer two questions: Is there patterning to reabuse? And if so, is this different in metro and nonmetro environments? Data were derived from the official Wisconsin Central Registry of Child Abuse reports for January/1973 - May/1978, during which time a very structured instrument was used for 10,666 reports. General variable areas investigated were geographical environment, abuse incident characteristics, demographic characteristics, and case management by the social worker. Of the certain or legally established cases, 2,439 (56.5%) were metro and 1,874 (43.5%) were nonmetro cases. This constituted an averaged annual abuse rate of 48.3 metro and 54.1 nonmetro per 100,000 children. Retained for analysis were 310 reports (152 metro/158 nonmetro) where reabuse had occured and had been recorded. This constituted an averaged annual reabuse rate of 0.30 metro and 0.46 nonmetro per 100,000 children. It was concluded that there was patterning but not very strong and that the patterning was somewhat different in metro/nonmetro areas. It was also concluded that the model developed for forecasting was only slightly better than chance. (AN)

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FORECASTING REPEAT CHILD ABUSE FROM INITIAL SOCIAL WORKER REPORTS: A Metropolitan and Non-metropolitan Comparison

Paper presented at

1980 Rural Sociological Society Meetings
Cornell University
Ithaca, New York
August 20-23, 1980

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RC 012252

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Awareness of child abuse has increased dramatically in recent years. It receives prominence in the media, universities offer courses on it, and politicians pass laws to fight it (as for example Publ.L. No. 93-247, the federal Child Abuse Treatment Act). Whether or not its incidence is increasing or epidemic has yet to be fully determined. Some estimates of frequency of occurrence are so broad as to have little meaning. Soeffing (1975), in perhaps a conservative estimate, suggests prevalance to be between 60,000 and 500,000 annually. Alvey (1975) asserts a more prevalent occurrence with estimates of one to four million.

In efforts to create awareness of its brutality, and in research into understanding the phenomenon, many efforts seem to be directed at distinguishing abusers from non-abusers. Only modest inquiry appears directed at the phenomenon of reabuse (Herrenkohl, 1979; Cohn, 1979), although that behavior is postulated as being more probable, after an initial abuse, than is the probability of an initial abuse. Cohn (1979) cites reports on reabuse in selected projects as varying from 13 to 51 percent even when excluding reports of emotional abuse, mild physical injuries, emotional neglect, and mild physical neglect. She concludes a 30 percent reabuse "seems high." Nevertheless, the apparent frequency of the reabuse phenomenon justifies study and provides the focus of this inquiry.

The specific questions raised are 1) is there patterning to reabuse such that initial incidents may be distinguished as to whether or not abuse is likely to reoccur; and 2) if there is patterning, is this different in metropolitan and non-metropolitan environments.

The data source for the study is the official Central Registry of Child Abuse reports in the State of Wisconsin for a five year, five month period. In Wisconsin, child protective workers in County Departments of Human Services, by statute, are required to investigate all reports of child abuse within their county. Over the years various report forms have been used, but for the period from January 1973 through May of 1978 a quite structured and detailed instrument was used. Prior to and following those dates more general forms were in effect, but during the study period the report form elicited as many as 200 characteristics of the reported incident. The reports were filed with the State Department of Community Services and placed in a magnetic tape data bank. In addition to the magnetic tape file, a physical file was kept by the department with selected information about abused individuals. Included in this second file were identification numbers and dates of reports contained in the magnetic files. The dependent variable for this investigation, future abuse, was constructed by manually determining, from the physical file, which individuals had multiple entries. For those having multiple entries, the one with the earliest date was subsequently identified on the magnetic file as indicating a future abuse, thus creating a dichotomous dependent variable.

The independent variables in the investigation were constructed from observations recorded on the form. Those variables which could be constructed from items on the form and which have been reported in previous studies to have relationships distinguishing abusers and non-abusers were identified and used to investigate the research questions. Overall, four general areas were selected:

1) The geographical environment
2) Characteristics of the abuse incident
3) Case management by the social worker
4) Demographic characteristics of the parties involved

The operationalization of these conceptual areas were as follows:

Geographical Environment. This was developed by determining whether or not the county where the incident occurred was a SMSA county. If the county is part of a SMSA, the label of Metropolitan is used. If the county is not a part of a SMSA, the label of Non-Metropolitan is used.

Characteristics of the Abuse Incident. Nine variables were developed. These included:

Presence of Ongoing Stress: A seven-item index reflecting the social worker's interpretation of presence of emotional, marital, work, community, new baby in home, absence of essential family member, or undefined but ongoing stress.

Variety of Different Stresses: A seven-item index reflecting judgment about stresses due to family break-up, loss of job, recent arguments, fighting, alcohol related problems, drug related problems or other undefined stress.

Financial Stresses: A three-item index inventorying the presence of problems due to lack of money, continuing debts, or unemployment.

Variety of Child Induced Stresses: A four-item index consisting of stresses arising from the child's crying, disobedience, hostility or other stress inducing behavior.

Variety of Injuries: A 16-item index reflecting the findings of injuries to the child. The identified injuries were bruises, sprains, bone fractures, internal injuries, skull injuries, brain damage, psychological injury, suffocation, burns, abrasions, cuts, dismemberment, freezing, malnutrition, sexual and other non-specified injuries.

Variety of Inflicting Devices: A 16-item index summing the assessment of instruments or devices used to inflict the abuse.

Reporter's Relation to Child: A three-item response representing whether the person reporting the incident was acting in a professional role (law enforcement, physician, teacher, etc.) a parent or relative, or other (stranger, neighbor, acquaintance or unidentified).

Multiple Abuse Incident: A dichotomous variable reflecting whether more than one child was reported abused in the same investigation.

Number of Parents in Home: This variable indicated whether neither, one, or both parents were a part of the residential unit of the child when the incident occurred.

Case Management by the Social Worker. Two variables were identified and developed.

Variety of Social Services Provided: An eight-item index indicating the attempt to help the parties involved to cope with the situation. These included possibilities of casework services, guidance or counseling clinic, financial assistance and planning, public medical care, maternity care, day care services, homemaker services, or other undefined services.

Conservativeness: A four-item index of actions taken to prevent reabuse or protect the child. These included removing the child, at least temporarily, from the home; taking the case to juvenile court; having criminal action at least referred to the district attorney; and taking action to remove other children from the home.

Demographic Characteristics of the Parties Involved. Characteristics of the child, the abuser, the child's mother, and the child's father were available on the form and utilized.

Demographic Characteristics of the Abused Child:

Age: The chronological years of life.

Sex: A dichotomous variable of male and female distinction.

Race: A dichotomous variable of white and non-white distinction.

Demographic Characteristics of the Abuser:

Age: The chronological years of life.

Sex: A dichotomous variable of male and female distinction.

Race: A dichotomous variable of white and non-white distinction.

Relation to Child: A three-item scale reflecting social distance - natural parent; foster, step or adoptive parent; or other.

Abused as a Child: A three-item scale of yes, unknown and no.

Demographic Characteristics of the Mother:

Age: The chronological years of life.

Sex: A dichotomous variable of male and female distinction.

Educational Attainment: A five-item scale of the categories less than eighth grade, some high school, high school graduate, some college or vocational training, and college graduate.

Occupation: A three-point scale indicating housewife, employed and unemployed.

Demographic Characteristics of the Father. Because of the magnitude of missing data on the father, only one variable was utilized.

Age: The chronological years of life.

Summary statistics and distribution data for these variables are found in Table 1. Reliability and validity of the data are not fully ascertained. There were indications of some clerical errors in noting reabuse cases on the original card file. Some ambiguity existed within the physical file in linking together the same individual and siblings and, on occasion, the same abuser. Most of these, however, were resolved with confidence. Of greater concern is the information contained on the investigation report form. While the reports were completed by professional social workers, considerable variation in the amount of information available to the social worker as well as in the professional judgement of that information is to be expected statewide. The magnitude of missing data was so large as to prohibit use of potential variables. On occasion, variables with considerable missing data were included because of the variable's salience; i.e., abuser abused as a child. Also, while filing the reports in the state Central Registry was a part of state regulation, there were indications to the researchers where this may have been delayed or circumvented, at least occasionally. In addition, there were some logical errors with the form. For example, the item dealing with possible placement of children assumed more than one child, the contingency for only child was not provided. Nevertheless, since social work is a profession where individuals do bring some active professional ingredient to the investigation, the researchers concluded the file should have scientific value in developing profiles of the abuse and reabuse phenomena.

As indicated earlier, the study population is all reports in the Central Registry files of the State of Wisconsin for nearly a five and one-half year period. During this period, from January 1973 through May 1978, some 10,666 official reports were filed. The report contained four levels of abuse differentiation:

Table 1. Distribution and Summary Statistics of Variables

Variables	Metro Area % of 312	Non-Metro Area % of 308	Pooled Sample % of 620	Population % of 4313
DEPENDENT VARIABLE				
Future Abuse				
Observed	48.7	51.3	50.0	7.2
Not observed	51.3	48.7	50.0	92.8
INDEPENDENT VARIABLES				
Characteristics of the Incident				
Presence of Ongoing Stress				
0	20.5	20.8	20.6	20.3
1	46.8	41.9	44.4	44.7
2	19.2	23.1	21.1	23.5
3 or more	13.5	14.3	13.8	11.5
$\bar{X}$	1.31	1.35	1.33	1.30
s	1.07	1.06	1.06	1.00
Variety of Different Stresses				
0	63.5	63.6	63.5	64.0
1	25.6	26.9	26.3	26.3
2	10.9	9.4	10.2	9.7
$\bar{X}$	0.49	0.47	0.48	0.48
s	0.73	0.70	0.72	0.75
Financial Stresses				
0	74.0	67.2	70.6	75.7
1	22.1	26.3	24.2	20.4
2	38.5	6.5	5.2	5.0
$\bar{X}$	0.30	0.41	0.36	0.32
s	0.55	0.68	0.62	0.60
Variety of Child Induced Stresses				
0	48.4	57.5	52.9	51.5
1	42.0	38.3	40.2	41.5
2	9.6	4.2	6.9	6.9
$\bar{X}$	0.61	0.47	0.54	0.56
s	0.66	0.58	0.62	0.63
Variety of Injuries				
0	4.5	5.5	5.0	4.7
1	66.3	69.2	67.7	68.7
2	23.4	23.4	23.4	21.9
3	5.7	1.9	3.8	4.6
$\bar{X}$	1.31	1.22	1.27	1.28
s	0.67	0.59	0.63	0.68
Variety of Inflicting Injuries				
0	21.8	23.7	22.7	24.0
1	56.1	55.5	55.8	54.5
2	16.7	16.2	16.5	16.0
3 or more	5.4	4.5	5.0	5.5
$\bar{X}$	1.06	1.02	1.04	1.05
s	0.80	0.78	0.79	0.85
Reporter Relation to Child				
Professional	58.0	51.6	54.8	56.5
Parent or Relative	18.2	26.9	22.6	24.2
Other	23.8	21.5	22.6	19.3
Multiple Abuse Incident				
No	81.4	81.5	81.5	81.7
Yes	18.6	18.5	18.5	18.3
Number of Parents in Home				
Neither	5.7	12.9	9.2	9.9
One	49.7	36.1	43.9	44.5
Two	44.7	51.0	47.8	45.6
Social Worker Handling of Case				
Variety of Social Services Provided				
0	8.7	8.1	8.4	9.3
1	54.8	44.2	49.5	51.3
2	23.4	25.6	24.5	24.3
3	9.0	14.3	11.6	10.0
4 or more	41.7	7.7	6.1	5.1
$\bar{X}$	1.45	1.73	1.59	1.52
s	0.92	1.15	1.05	1.03
Conservativeness				
0	2.3	2.0	2.0	0.9
1	49.2	59.3	55.0	10.9
2	29.7	25.7	27.4	51.9
3	16.5	10.7	13.2	27.5
4 or more	2.3	13.2	2.3	8.8
$\bar{X}$	1.67	1.52	1.59	2.35
s	0.87	0.90	0.83	0.82

Table 1. continued

Demographic Characteristics of Abused Child				
Age				
Less than one year	6.4	4.5	5.5	5.6
One to three years	11.5	11.6	11.6	10.3
Three to five years	10.6	11.0	10.8	10.4
Five to seven years	14.7	13.3	14.2	11.6
Seven to nine years	7.4	8.7	8.1	9.8
Nine to eleven years	7.7	8.8	8.2	8.8
Eleven to thirteen years	7.4	8.8	8.2	9.4
Thirteen to fifteen years	18.6	14.6	16.6	14.0
Fifteen to eighteen years	14.1	17.2	15.6	20.1
Sex Male				
Male	45.5	43.8	44.6	42.7
Female	54.5	56.2	55.3	57.3
Race				
White	71.1	93.5	82.3	80.6
Non-white	27.6	4.3	16.0	17.7
Unknown	1.3	2.2	1.7	1.6
Demographic Characteristics of Abuser				
Age				
Less than eighteen	5.1	6.8	6.0	6.2
18 through 30	36.9	34.0	35.5	36.3
31 through 40	31.1	31.8	31.5	31.7
41 through 50	12.8	15.6	14.2	13.2
51 and older	3.5	5.8	4.7	4.1
Unreported or unknown	9.3	5.8	7.6	8.6
Sex				
Male	66.7	69.0	67.9	69.1
Female	33.3	31.0	32.1	30.9
Race				
White	72.6	89.4	81.5	78.8
Non-white	20.1	9.4	14.8	17.4
Unknown	7.3	1.3	3.7	3.8
Relation to Child				
Natural Parent	65.3	62.0	63.5	60.9
Adoptive, Step or Foster Parent	14.2	13.6	13.9	14.2
Other	20.4	24.0	22.6	24.9
Abuser Abused as a Child				
Yes	17.9	24.4	21.1	20.1
Unknown	73.2	69.3	70.8	70.3
No	8.8	7.3	8.1	9.6
Demographic Characteristics of Mother				
Age				
Less than eighteen	1.0	0.3	0.6	1.0
18 through 30	47.4	43.3	44.0	41.4
31 through 40	33.3	36.0	34.7	33.8
41 through 50	9.3	8.4	8.9	10.1
51 or older	1.0	2.6	1.8	1.5
Unreported or unknown	10.3	9.1	9.7	12.3
Educational Attainment				
Eighth grade or less	6.4	4.2	5.3	5.3
Some High School	25.3	29.9	27.6	24.3
High School Graduate	32.3	33.8	33.1	24.3
Some College or Vocational School Training	3.5	4.2	4.0	4.0
College Graduate	1.6	3.2	2.4	1.5
Unreported	30.4	24.7	27.6	31.7
Occupation				
Housewife	28.0	45.5	36.7	48.2
Employed	53.8	36.4	45.2	31.8
Unemployed	10.5	8.1	9.4	10.6
Unknown	7.7	10.6	8.9	9.4
Demographic Characteristics of Father				
Age				
Less than eighteen	0.0	0.0	0.0	0.0
18 through 30	19.9	22.1	21.0	18.8
31 through 40	23.3	30.2	26.8	26.4
41 through 50	10.6	19.2	14.8	17.5
51 and older	3.5	5.8	9.4	3.9
Unreported or unknown	42.6	22.7	32.7	36.2

1) no neglect and no abuse

2) neglect, but not abuse

3) abuse uncertain

4) abuse certain

5) abuse legally established.

For this paper, only statuses 4 and 5 were retained for analysis. This initial filtering of the reports reduced the original population to 4,313 cases, or approximately 41 percent of the total reports. Table 2 presents trend data for the period. Annual reports more than doubled during the study period; and the percent of the reports which were case status 4 and 5 remained quite constant at about 40 percent. The number of reports, while increasing during the period, did not display a constant rate of increase, however.

Among the certain or legally established cases, 2439 (or 56.5 percent) were in metropolitan areas, and 1874 (or 43.5 percent) were in non-metropolitan areas. When standardized by the total number of children under 18 years, these reports constitute an averaged annual rate of 48.3 and 54.1 per 100,000 children in the metropolitan and non-metropolitan areas, respectively.

Table 2. Frequency of Child Abuse Reports in Wisconsin. January 1973 through May 1975.

Year	Total Reports	Annual Percent Increase	Number of Certain & Legal Cases	Percent of Cases Certain & Legal
1973	1,283	- -	549	42.8
1974	1,622	26.4	648	40.2
1975	2,033	25.3	835	41.1
1976	2,097	3.1	854	40.7
1977	2,517	20.0	989	39.3
1978	1,114	Inc.	438	39.3

Among the cases retained for analysis were 310 reports (or approximately seven percent) where reabuse would later occur and be filed. Of these, 152 were filed in metropolitan areas and 158 in non-metropolitan areas. This constitutes

an averaged annual reabuse rate of 0.30 and 0.46 per 100,000 children in metropolitan and non-metropolitan areas, respectively.

Using the criterian chosen in this investigation for reabuse, the conclusion is that it is not a highly prevalent phenomenon. Certainly, the reabuse found here is considerably less frequent than suggested by Cohn (1979). There may be several factors for the discrepancy, but three important ones should be emphasized. The first is the rigor for inclusion in this investigation (abuse certain or legally established) for both official reports. The second is the rather narrow time frame from which data were available (about five and one-half years) which prohibited following the cohort to adulthood. A third, and well known one, is that reputed cases do not reflect the entire population of abuse incidents.

Because of the imbalance between those reports where no future abuse was indicated and those where reabuse did occur (ratio of nearly 13 to 1), a random sample of the non-reabuse cases was taken. This subsample was of like size to the reabuse number. Analysis was then conducted on this reduced sample of 620, which included 312 reports from metropolitan areas and 310 reports from non-metropolitan areas.

Zero-order and multiple correlation analysis was conducted between the dependent variable of future reabuse and the independent variables. The procedures were conducted separately for the metropolitan and non-metropolitan reports as well as for the pooled sample. Table 3 presents the zero-order analysis and Tables 4, 5, and 6 the multiple correlation summaries.

When inspecting the statistics in Table 3 on the zero-order relationships, the immediate reaction is noting the rather low magnitude of the test statistics. Indeed, none was larger than $\pm$.18. Nevertheless, some are statistically significant and interesting patterns do emerge. For example, among the nine variables related to the abuse incident, five are statistically significant

Table 3. Zero-order correlation coefficients bewteen Future Abuse and Independent Variables.

Variables	Metro Areas n = 312	Non-Metro Areas n = 308	State Total N = 620
Characteristics of the Incident			
Presence of Ongoing Stress	.16++	.10	.13++
Variety of Different Stresses	.04	-.01	.01
Financial Stresses	.18++	.02	.09+
Variety of Child Inouced Stresses	.12+	.04	.08
Variety of Injuries	.11+	-.10	.01
Variety of Inflicting Devices	.16++	.03	.10+
Reporters Relation to Child	-.04	-.06	-.05
Multiple Abuse Incident	-.07	-.14+	-.10+
Number of Parents in Home	.10	-.03	.04
Social Workers Handling of Case			
Variety of Social Services Provided	.07	.13+	.12++
Conservativeness	.14+	.16++	.13++
Demographic Characteristics of Abused Child			
Age	-.06	-.18++	-.12++
Sex	-.07	.03	.02
Race	-.07	-.03	-.06
Demographic Characteristics of Abuser			
Age	-.02	-.03	-.02
Sex	.06	.07	.06
Race	-.07	-.04	-.06
Relation to Child	-.16++	-.01	-.08
Abused as a Child	-.10	-.04	-.07
Demographic Characteristics of Mother			
Age	-.04	-.18++	-.11+
Educational Attainment	-.15++	-.10	-.13++
Occupation	-.04	-.18++	-.11+
Demographic Characteristics of Father			
Age	-.10	-.13+	-.12++

+Significant at .05 level of chance occurrence

++Significant at .01 level of chance occurrence

for the metropolitan reports and one is significant among the non-metropolitan reports. Of those showing significance, three are stress variables. Stress has been a differentiating variable in previous studies distinguishing abusers and non-abusers (Serrano, et. al., 1979; Smith and Hanson, 1974; Egeland and Brunnquell, 1969; Hunter, et. al., 1978; Justice and Duncan, 1968; Lynch and Roberts, 1977). Findings of this analysis suggest it to be related to the reabuse phenomenon in metropolitan areas as well.

The abuse incident variable significantly related to reabuse in the non-metropolitan reports is multiple abuse. Interestingly, this is an inverse relationship and runs counter to the findings of Corey (1975).

Both variables on the social worker's handling of the case are related in the non-metropolitan areas and one is related for the metropolitan area reports. A weak, but significant, relationship is found with providing social services. The relationship is counter to expectations in that the more services provided, the more likely is the abuse to reoccur. A post hoc explanation for this may be that reabuse cases are highly pathological and providing services is not sufficient to counter the situation.

In the non-metropolitan analysis, four demographic variables were found to be significantly related to future reabuse. These were age of the child (younger children are more likely to be reabused), occupation of the mother (housewife role is more likely to reabuse), and age of parents (younger parents are more

Table 4. Multiple Correlation Coefficient and F-Ratio upon entering Step-wise Regression Equation. Metropolitan Sample (n = 312).

Variable	Multiple Correlation	F - Ratio
Financial Stresses	.178	10.13
Variety of Inflicting Devices	.236	9.09
Mother's Occupation	.276	8.46
Conservativeness	.307	8.01
Mother's Educational Attainment	.330	7.50
Abuser's Relation to Child	.347	6.95
Age of Child	.361	6.52
Multiple Abuse Incident	.372	6.07
Sex of Abused Child	.379	5.61
Abuser Abused as a Child	.384	5.21
Abuser's Age	.389	4.86
Race of Abused Child	.393	4.56
Reporter's Relation to Child	.396	4.27
Variety of Injuries	.399	4.01
Father's Age	.402	3.79
Mother's Age	.404	3.60
Abuser's Sex	.406	3.40
Number of Parents in Home	.407	3.06
Presence of Ongoing Stress	.408	2.90
Race of Abuser	.409	2.77
Variety of Child Induced Stresses	.409	2.63

Not entered were Variety of Stresses and Variety of Social Services Provided

Table 5. Multiple Correlation Coefficient and F-Ratio upon entering Step-wise Regression Equation Non-metropolitan Sample N = 308)

Variable	Multiple Correlation	F - Ratio
Mother's Age	.183	10.59
Conservativeness	.228	8.38
Variety of Social Services Provided	.267	7.79
Multiple Abuse Incident	.295	7.23
Variety of Injuries	.319	6.83
Sex of Abused Child	.329	6.10
Age of Child	.339	5.54
Mother's Educational Attainment	.346	5.09
Reporter's Relation to Child	.352	4.67
Age of Abuser	.357	4.34
Presence of Ongoing Stress	.361	4.02
Abuser's Relation to Child	.365	3.78
Number of Parents in Home	.368	3.55
Financial Stresses	.372	3.36
Abuser Abused as Child	.373	3.14
Variety of Child Induced Stresses	.373	2.95
Sex of Abuser	.374	2.77
Variety of Stresses	.375	2.62
Mother's Occupation	.375	2.47
Race of Child	.375	2.34
Variety of Inflicting Devices	.375	2.22
Race of Abuser	.375	2.02

Not entered was Age of Father

likely to reabuse). The findings with regard to age of parents is consistent with those reported by Holter and Freidman (1968), Lynch and Roberts (1977) and Lauer, et. al. (1974).

Among the metropolitan reports, inverse relationships were found between reabuse and two demographic variables: educational attainment of the mother and social distance of abuser. The educational relationship is consistent with findings of Hunter (1978).

In an effort to explore multivariate relationships with future abuse, multiple correlation coefficients were computed with future reabuse as the dependent variable. These results, presented in Tables 4, 5, and 6, show most of the variables when entering the stepwise regression equation made a significant, albeit somewhat small, contribution to the explanation of reabuse.

Table 6. Multiple Correlation Coefficent and F-Ratio for Pooled Sample ($N = 620$).

Variable	Multiple Correlation	F - Ratio
Conservativeness	.135	11.41
Mother's Education	.190	11.59
Age of Child	.227	11.11
Presence of Ongoing Stress	.251	10.35
Multiple Abuse Case	.268	9.50
Mother's Occupation	.278	8.53
Variety of Social Services Provided	.286	7.78
Abuser's Relation to Child	.292	7.12
Father's Age	.296	6.52
Age of Abuser	.301	6.08
Abuser Abused as Child	.304	5.65
Variety of Inflicting Devices	.307	5.27
Race of Child	.309	4.93
Reporter's Relation to Child	.312	4.65
Financial Stresses	.313	4.37
Mother's Age	.314	4.12
Number of Parents in Home	.315	3.90
Sex of Abuser	.316	3.72
Variety of Injuries	.317	3.54
Sex of Child	.318	3.21
Race of Abuser	.318	3.07

Not entered were Variety of Child Induced Stresses and Variety of Different Stresses

Inspection of the three tables does show some different patternings. Perhaps useful to note, is that the pooled sample results in a smaller overall coefficient than does either the metropolitan or non-metropolitan coefficient. This may in part be due to correlating error in the former instances, but the etiology here as well as in the bivariate relationships seems to suggest stress as being a more important factor associated with reabuse in metropolitan areas than in non-metropolitan areas. In the non-metropolitan areas, demographic factors seem to be more potent.

Since the multiple regression correlation coefficients do show some degree of association, the analysis was carried a step further. Utilizing the regression equation from the correlational analysis, predicted scores were calculated and plotted. The greatest differentiating dichotomy was drawn to assess efficiency of prediction. Tables 7 and 8 present these outcomes. For both settings,

Table 7. Cross Classification of Actual and Predicted Reabuse. Non-metropolitan sample (N = 308).

Predicted Reabusers	Actual Reabusers No % of 150	Yes % of 158
NO	64%	46%
YES	36%	54%

χ^2 = 10.74, 1d.f., $p \leq .01$
Percent correct classification = 59% (Z = 3.16)

Table 8. Cross Classification of Actual and Predicted Reabuse. Metropolitan sample (N = 282)

Predicted Reabusers	Actual Reabusers No % of 150	Yes % of 132
NO	60%	41%
YES	40%	59%

χ^2 = 10.21, 1d.f., $p \leq .01$
Percent correct classification = 60% (Z = 4.38)

the classification is statistically significant at the .01 level as reflected in the Chi Square and Difference of Proportion tests. However, the prediction is only minimally proficient. Furthermore, these tests are utilizing the data from which the prediction formula was developed. Validation on an independent set of cases most likely would result in even greater error in prediction.

In summary, it must be emphasized these findings were extraordinarily tenuous. There are several reasons for this in addition to the weakness of the relationships. The data set, while large, and being the population for an entire state, has inherent reliability limitations. This stems from the nature of reporting. Each county has one or more individuals investigating reported incidences. These professionals make different subjective assessments on often incomplete information on often rather complex events.

Consequently, this inquiry leaves somewhat open ended both questions addressed at the outset. To the question "Is there a patterning to reabuse?", the answer would be "yes, but not very strong." To the question, "Is the patterning different between metropolitan and non-metropolitan settings?", again, the answer is "yes, but because of the amount of unexplained variance, the answer is guarded." To the goal of forecasting, the model developed is only slightly better than chance.

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